

PATENT ABSTRACTS OF JAPAN

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(21)Application number : **59-141389** (71) **TOYO SODA MFG CO LTD**
Applicant :
(22)Date of filing : **10.07.1984** (72) **YAMAZOE NOBORU**
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(54) SEPARATION OF OXYGEN

(57)Abstract:

PURPOSE: To perform lasting oxygen separation even at high temp. without requiring an electrode and an external circuit, by using a conductive solid electrolyte mixture having both of oxygen ion conductivity and electron conductivity.

CONSTITUTION: As a conductive solid electrolyte mixture having both of oxygen ion conductivity and electron conductivity, one having composition represented by $\text{La}_{1-x}\text{Sr}_x\text{Co}_{1-y}\text{Fe}_y\text{O}_{3-\delta}$ [wherein (x) is 0.1W1, (y) is 0.05W1 and δ is 0.5W0] is used. As a preparation method, oxide or proper salts of lanthanum, strontium, cobalt and iron are mixed in a predetermined ratio and the resulting mixture is baked at 640W1,400°C for several hr W several ten hr. Molding is performed by sintering the electrolyte mixture under pressure at 1,000W1,500°C. The film thickness of the baked molded one is 2mm or less and the separation of oxygen is performed at electrolyte temp. of 500W1,200°C.